



Antimicrobial Resistance Facts and Stats



For Everyone

FEBRUARY 4, 2025

KEY POINTS

- Antimicrobial resistance (AR) is an urgent global public health threat.
- In the U.S., more than 2.8 million antimicrobial-resistant infections occur each year.



Overview

CDC is concerned about the emergence and spread of new forms of resistance and rising resistant infections in the community (outside hospitals). Community infections can put more people at risk, make spread more difficult to identify and contain and threaten the progress made to protect patients in hospitals.

In 2019, CDC's [Antibiotic Resistance Threats in the United States, 2019](#) [PDF](#) (AR Threats Report) noted that dedicated prevention and infection control efforts in the U.S. reduced deaths from antimicrobial-resistant infections by 18% overall and by nearly 30% in hospitals. Additional data shows these reductions continued until 2020 when the U.S. started losing progress combating AR due to effects of the COVID-19 pandemic. The pandemic resulted in more resistant infections, increased antibiotic use, and less data and prevention actions. [\[1\]](#)

In July 2024, CDC published [Antimicrobial Resistance Threats in the United States, 2021-2022](#), highlighting that new data [\[A\]](#) show that six bacterial antimicrobial-resistant hospital-onset infections [\[B\]](#) increased by a combined 20% during the COVID-19 pandemic compared to the pre-pandemic period, peaking in 2021, and remaining above pre-pandemic levels in 2022. In addition, the number of reported clinical cases of *Candida auris* (*C. auris*) - a type of yeast that can spread in healthcare facilities, is often resistant to antifungal medications, and can cause severe illness - increased nearly five-fold from 2019 to 2022.

Highlights

- AR is an urgent global public health threat, killing at least 1.27 million people worldwide and associated with nearly 5 million deaths in 2019, according to a [report released in The Lancet](#) [\[2\]](#).
- In the U.S., more than 2.8 million antimicrobial-resistant infections occur each year. More than 35,000 people die as a result, according to CDC's 2019 AR Threats Report. [\[3\]](#)
- When *C. diff*—a bacterium that is not typically resistant but can cause deadly diarrhea and is associated with antibiotic use—is added, the U.S. toll of all the threats in the AR Threats Report exceeds 3 million infections and 48,000 deaths.
- The estimated national cost to treat infections caused by six antimicrobial-resistant germs frequently found in health care can be substantial—more than \$4.6 billion annually, according to a collaborative [CDC study](#) [\[4\]](#).

Tracking AR

CDC uses several data sources and systems to track AR in the U.S. and abroad. Knowing where and how changes in resistance are occurring informs solutions (e.g., outbreak response) to prevent spread and slow resistance.

CDC collects data through many tracking systems and uses external sources, like electronic health data, to assess the burden of antimicrobial-resistant germs. Data often include information on human infections, pathogens (germs) and reasons or risk factors that cause some people to get a resistant infection. CDC also works with partners to strengthen information-sharing, address data gaps and harmonize how data are reported across the U.S. and other countries.

The following systems complement each other to provide a comprehensive understanding of known and emerging AR threats.



[Antimicrobial Resistance Laboratory Network](#)

Resources about CDC's AR Lab Network for U.S. labs for quicker response to antimicrobial resistance.

NOV. 26, 2024



[Emerging Infections Program](#)

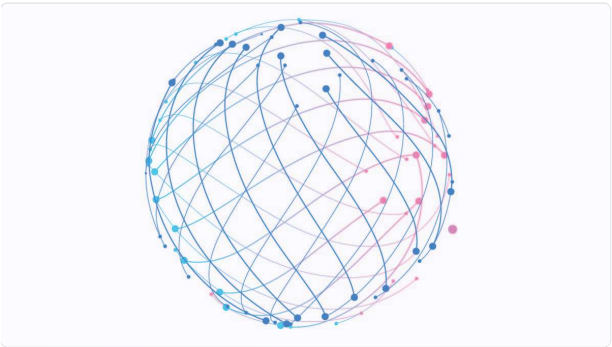
Overview of the Emerging Infections Program at the Centers for Disease Control and Prevention.

JAN. 29, 2024

[About Global Action in Healthcare Network - Antimicrobial Resistance](#)

Global Action in Healthcare Network detects and responds to antimicrobial resistance in healthcare s...

APR. 1, 2024



[Global Antimicrobial Resistance Laboratory and Response Network](#)

About CDC's Global Antimicrobial Resistance Laboratory and Response Network.

APR. 22, 2024

[Global Antimicrobial Resistance and Use Surveillance System \(GLASS\)](#)

[National Antimicrobial Resistance Monitoring System for Enteric Bacteria \(NARMS\)](#)

NARMS in ActionTracking antimicrobial resistance in dangerous bacteria that affect people and cattle...

AUG. 6, 2023



[National Healthcare Safety Network \(NHSN\)](#)

CDC's National Healthcare Safety Network is the nation's most widely used healthcare-associated infe...

FEB. 2, 2025

[Data and Statistics](#)

Home page for TB Data and Statistics. Provided by the Centers for Disease Control and Prevention (CDC)

NOV. 12, 2024

[About PulseNet](#)

PulseNet homepage

MAY 14, 2024

Publications with AR data

Reports

- [Antimicrobial Resistance Threats in the United States, 2021-2022](#)
- [2022 Special Report: COVID-19 U.S. Impact on AR](#) [PDF](#)
- [2019 Antibiotic Resistance Threats Report](#) [PDF](#) (2019)
- [2013 Antibiotic Resistance Threats Report](#)(2013)
- [Stewardship Report: Antibiotic Prescribing and Use in the U.S. and Human Health](#)
- [STD Surveillance Reports](#)
- [Transatlantic Taskforce on Antimicrobial Resistance Resources](#)
- Vital Signs Reports:
 - [Preventing Bloodstream Infections in People on Dialysis](#) (2023)
 - [Staph infections can kill. More prevention in healthcare & communities needed](#) (2019)
 - [Containing unusual resistance](#) (2018)
 - [Think sepsis. Time matters.](#) (2016)
 - [Protect patients from antibiotic resistance](#) (2016)
 - [Stop spread of antibiotic resistance](#) (2015)
 - [Antibiotic Rx in hospitals: Proceed with caution](#) (2014)

CDC Data Apps & Tools

- [Antimicrobial Resistance Investment Map](#)
- [Antibiotic Resistance & Patient Safety Portal](#)
- [NARMS Now: Human Data \(food-borne safety data\)](#)
- [Reference Antimicrobial Susceptibility Testing \(AST\) Data](#)
- [Tracking Map of *Candida auris* in the U.S.](#)

Meeting Summary Reports

- [Initiatives for Addressing Antimicrobial Resistance in the Environment](#) (2018)

- **About:** Scientific experts met to discuss evidence and identify knowledge gaps around resistance in the environment (e.g., soil, water) at the International Environmental AMR Forum, hosted by CDC, the UK Science & Innovation Network, and the Wellcome Trust.
- **Report:** [Executive Summary](#) [PDF](#) [↗](#) and [Current Situation and Challenges](#) [PDF](#) [↗](#)
- A Public Health Perspective on Antimicrobial Resistance Diagnostics (2016)
 - **About:** Industry leaders met to look for solutions to challenges that come with the development, uptake, and implementation of tests that can slow the spread of resistance, hosted by CDC and AdvaMedDx.
 - **Report:** [Meeting Summary and Opportunities to Address Challenges](#) [PDF](#)

Archived

- ITFAR was created in 1999 to coordinate the activities of federal agencies in addressing AR. Email arx@cdc.gov for the archived 2001-2012 ITFAR reports.

SOURCES

CONTENT SOURCE:

[National Center for Emerging and Zoonotic Infectious Diseases \(NCEZID\)](#)

FOOTNOTES

- Databases used for bacterial pathogens analyzed were the PINC-AI Healthcare Database and the BD Insights Research Database. CDC is working on a future publication that will include more detailed data analysis for bacterial pathogens discussed in this fact sheet. *C. auris* data was obtained by monthly reporting through jurisdiction public health departments.
- The six bacterial antimicrobial-resistant hospital-onset infections include Carbapenem-resistant Enterobacterales (CRE), Carbapenem-resistant *Acinetobacter*, Methicillin-resistant *Staphylococcus aureus* (MRSA), Vancomycin-resistant Enterococcus (VRE), Extended-spectrum beta-lactamase (ESBL)-producing Enterobacterales and Multidrug-resistant (MDR) *Pseudomonas aeruginosa*.

REFERENCES

1. CDC. COVID-19: U.S. Impact on Antimicrobial Resistance, Special Report 2022. Atlanta, GA: U.S. Department of Health and Human Services, CDC; 2022.
2. <https://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2821%2902724-0/fulltext> [↗](#)
3. CDC. Antibiotic Resistance Threats in the United States, 2019. Atlanta, GA: U.S. Department of Health and Human Services, CDC; 2019
4. [National Estimates of Healthcare Costs Associated With Multidrug-Resistant Bacterial Infections Among Hospitalized Patients in the United States | Clinical Infectious Diseases | Oxford Academic \(oup.com\)](#) [↗](#)